

ABSTRACT OF THE DISCLOSURE

5        To synchronize a regularly occurring pulse train to the  
average of a bunched pulse train, an oscillator generates a  
plurality of differently phase shifted signals at a given  
frequency. One of the phase shifted signals is selected as an  
output signal. The output signal is compared with the bunched  
pulse train. The selected phase shifted signal is changed  
10       responsive to the comparison so the output signal occurs at  
the average frequency of the bunched pulse train. The  
oscillator is formed as a plurality of differential amplifier  
stages having equal controllable delays. The stages are  
connected together to form a ring oscillator. The output  
15       signal is compared with the bunched pulse train through a  
FIFO. A signal representative of the state of the FIFO is  
used as an error signal to control the selection of the phase  
shifted signal to be used as the output signal. A phase  
locked loop that synchronizes the phase shifted signal  
20       generating oscillator to a frequency reference is nested in  
the control loop that selects one of the phase shifted  
signals as the output signal.

LTR/amb

25       AMB PAS552430.1-\*--02/27/04 9:43 AM

30

35